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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/924,624 | 08/08/2001 | Shek Fai Lau | SHPR-01041US4 | 5227 |

23910 7590 02/26/2003

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EXAMINER

TRAN, THAO T

ART UNIT PAPER NUMBER

1711

DATE MAILED: 02/26/2003

✓

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-8

Office Action Summary

Application No.

09/924,624

Applicant(s)

LAU ET AL.

Examiner

Thao T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-37, 39-66, 68-78, 80 and 82-89 is/are pending in the application.
- 4a) Of the above claim(s) 39-42, 58-60, 64-66, 68-78, 80 and 82-89 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-37, 43-57 and 61-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 6. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 29-37, 43-57, and 61-63, drawn to an electro-kinetic transporter-conditioner, classified in class 422, subclass 186.
 - II. Claims 39-42 and 58-60, drawn to an electrode cleaner, classified in class 15, subclass 451.
 - III. Claims 64-66, 68-78, 80, 82-89, drawn to an apparatus for conditioning air, classified in class 422, subclass 186.04.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed, because the transporter-conditioner does not require the deflecting means as claimed in the electrode cleaner. The subcombination has separate utility such as the use of the electrode cleaner in a water cleaning device or a plasma reactor.
3. Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, Invention I

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is an electro-kinetic transporter-conditioner that comprises two electrodes and means for cleaning the first electrode that has different characteristics than that of Invention III. Invention III is an apparatus for conditioning air that comprises a vertical wire-shaped emitter electrode, a collector electrode, and an electrode cleaning mechanism to remove debris from the emitter electrode; the electrode cleaning mechanism has different characteristics than that of Invention I, such as comprising a plastic member including a slot to substantially surround a portion of the wire-shaped emitter electrode which is not included in Invention I.

4. Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions Invention II is an electrode cleaner that has different characteristics than that in Invention III, as pointed out in paragraph 3 above.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, or Group III, restriction for examination purposes as indicated is proper.

7. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

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8. During a telephone conversation with Sheldon Meyers on February 7, 2003 a provisional election was made without traverse to prosecute the invention of Group I, claims 29-37, 43-57, and 61-63. Affirmation of this election must be made by applicant in replying to this Office action. Claims 39-42, 58-60, and 64-66, 68-78, 80, 82-89 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
11. Claims 44, 46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 44 recites the limitation "said bead-shaped member" in lines 3-5. There is insufficient antecedent basis for this limitation in the claim.

Claim 46 recites the limitation "said bead-shaped member" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 29-37, 43-57, and 61-63 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11, 16-19 of U.S. Patent No. 6,350,417. Although the conflicting claims are not identical, they are not patentably distinct from each other; because the claims of the patent contain the subject matter that is narrower in scope than that of the instant claims, rendering them obvious over each other.

The claims of the patent teach all the limitations as recited in the instant claims. The claims of the patent further include a specific range of the duty cycle of the high voltage source outputting signal, making the claims of the patent narrower in scope than that of the instant claims.

Therefore, the scope of the instant claims embraces that of the claims of the patent, rendering them obvious over each other.

NOTE: The above is only an example of numerous obviousness-type double patentings.

Applicants are referred to paragraph 23 below for other pertinent prior art.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

The applied reference has a common assignee and one inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

15. Claims 47, 49, 55, and 63 are rejected under 35 U.S.C. 102(e) as being anticipated by Taylor et al. (US Pat. 6,163,098).

Taylor et al. teaches an electric conditioner, comprising a housing that comprises a first electrode, a removable second electrode, a high voltage generator coupled with the first and the second electrode (see Figs. 2-4; col. 5, ln. 14-19).

With respect to the manner as to how the first electrode is cleaned, it has been within the skill in the art that functional limitations would have insignificant patentable weight when an apparatus claim is being considered. Moreover, since the reference teaches the same structural elements; i.e, the housing, in which disposed the first and second electrodes, and the high voltage generator coupled with the two electrodes, the apparatus of the reference would inherently have the same property, meaning the reference’s first electrode would inherently be cleaned in the same manner as in the presently claimed invention.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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16. Claim 47 is rejected under 35 U.S.C. 102(b) as being anticipated by Kishioka et al. (US Pat. 5,698,164).

Kishioka et al. teaches an apparatus, comprising a housing, a first and a second electrodes disposed in the housing, and a voltage source coupled between the electrodes (see Figs. 1-3; col. 6, ln. 10-13).

With respect to the manner as to how the first electrode is cleaned, it has been within the skill in the art that functional limitations would have insignificant patentable weight when an apparatus claim is being considered. Moreover, since the reference teaches the same structural elements; i.e, the housing, in which disposed the first and second electrodes, and the high voltage generator coupled with the two electrodes, the apparatus of the reference would inherently have the same property, meaning the reference's first electrode would inherently be cleaned in the same manner as in the presently claimed invention.

17. Claims 43-44, 47, and 63 are rejected under 35 U.S.C. 102(b) as being anticipated by Aitkenhead et al. (US Pat. 3,581,470).

Aitkenhead et al. teaches an apparatus, comprising a housing (casing), a first and second electrodes (collector plates 1 and 2, and ionizing wires 115, 117), a source of high voltage, and at least one member defining a through circular opening (see Figs. 1, 13, 15, 18-19; col. 10-19-28, 61-67).

The reference does not specifically teach that the second electrode removable from the housing, the electrode would be inherently removable from the housing for repair, replacement, or cleaning.

As to how the first electrode is cleaned, it has been within the skill in the art that functional limitations would have insignificant patentable weight when an apparatus claim is being considered. Moreover, since the reference teaches the same structural elements; i.e, the housing, in which disposed the first and second electrodes, and the high voltage generator coupled with the two electrodes, the apparatus of the reference would inherently have the same property, meaning the reference's first electrode would inherently be cleaned in the same manner as in the presently claimed invention.

18. Claims 43-44, 47, 49-52, 55-57, 63 are rejected under 35 U.S.C. 102(b) as being anticipated by Kikuchi (US Pat. 4,092,134).

Kikuchi teaches an apparatus, comprising a chamber; discharging electrodes 1 and collecting electrodes 3 disposed in the chamber; a voltage source coupled between electrodes 1 and electrodes 3, and slidable scraping means 4; each defining a through opening; (see Figs. 1-4; col. 3, ln. 33-45; col. 4, ln. 21-36).

19. Claims 43-44, 47, 49-52, 55-57, 63 are rejected under 35 U.S.C. 102(b) as being anticipated by Borysiak (US Pat. 4,284,420).

Borysiak teaches an apparatus, comprising a housing; collecting electrodes 16 and 17; ionizing electrodes 18 and 24; a power supply 60; slidable scrapers 32, 36, and 42 defining through openings (see Figs. 1-3, 6; col. 3, ln. 1 to col. 4, ln. 6).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 45, 48, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi and Borysiak as applied to claims 43 and 51 above.

Kikuchi and Borysiak are as set forth in claims 43 and 51 above and incorporated herein.

In regards to claims 45 and 53, none of the cited references above teaches the diameter of the through opening exceeding the first electrode by at least 0.5 mm. However, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that the size of the through opening would be slightly larger than that of the first electrode for the scrapers to be able to slide and remove the debris from the electrode. If the through opening of the scraper is too tight, the scraper would not be able to slide along the electrode; and if the through opening is too loose, the scraper would not be able to scrape off debris from the electrode as it slides.

In regards to claim 48, neither Kikuchi nor Borysiak teaches the member defining the through opening being bead-shaped. However, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the scraper of Kikuchi or Borysiak such that the scraper would be bead-shaped, since the shape of the scraper would have been a design choice. Since Applicants have not disclosed whether using scrapers with a bead shape would be more advantageous than other shapes, the scraper of Kikuchi or Borysiak would function the same way as the bead-shape member in the presently claimed invention. See MPEP 2144.06.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicants are advised to overcome the following prior art upon amendments of the presently claimed invention.

Taylor et al. (App. Serial No. 09/730,499); Taylor et al. (App. Serial No. 09/897,267); Taylor et al. (App. Serial No. 10/023,197); Taylor et al. (App. Serial No. 10/023,460); Taylor et al. (App. Serial No. 10/074,082); Taylor et al. (App. Serial No. 10/074,207); Taylor et al. (App. Serial No. 10/074,208); Taylor et al. (App. Serial No. 10/074,209); Taylor et al. (App. Serial No. 10/074,339); Taylor et al. (US Pat. 6,312,507); Taylor et al. (US Pat. 6,182,671); Taylor et al. (US Pat. 6,152,146).

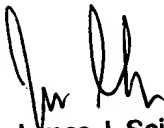
23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 703-306-5698. The examiner can normally be reached on Monday-Friday, from 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703-308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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February 13, 2003


James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700